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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,134

08/30/2006

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23373 7590 12/03/2008  
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EXAMINER

PAPE, ZACHARY

ART UNIT

PAPER NUMBER

2835

MAIL DATE

DELIVERY MODE

12/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,134	<b>Applicant(s)</b> YAMADA ET AL.	
	<b>Examiner</b> ZACHARY M. PAPE	<b>Art Unit</b> 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The following detailed action is in response to the correspondence filed 9/19/2008.

#### ***Specification***

The objection to the abstract has been withdrawn in view of the amendment thereto.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masashi et al. (JP 2002111250 - provided by Applicants, hereinafter, "Masashi") in view of Kledzik et al. (US 6,487,078 - hereinafter, "Kledzik").

With respect to claim 1, Masashi teaches (In Fig 1) a modular heat-radiation structure comprising: a printed circuit board (111); a module (121) for generating heat, including a first main unit having a fixing hole (That which 161 engages) and a lead (171) for connecting to the printed circuit board; a heat-radiation fin (131), fixed to the top face of the first main unit, for radiating heat generated in the module; an insulating heat shield (141) inserted between the printed circuit board and the first main unit; and a

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fixing element (161) for fixing the heat shield, the module, and the heat-radiation fin; wherein: a first fixing hole (181) for allowing the fixing element to pass therethrough are provided in the heat shield, and a second fixing hole for allowing the fixing element to pass therethrough is provided in the printed circuit board (See Fig 1). Masashi fails to teach or suggest that the heat shield is resin-made and includes a lead hole for allowing the lead to pass therethrough. Kledzik teaches (In Fig 5) the conventionality of having a heat shield (101) which is resin-made (Col 4, Lines 52-55) and has a lead hole (106) for allowing a lead (502) to pass therethrough (See also Fig 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the aforementioned teachings of Kledzik with that of Masashi to provide protection for the leads (Instead of the leads being exposed as per the teachings of Masashi, the leads would be at least partially protected).

With respect to claim 2, Kledzik further teaches a chip (507) fixed onto the printed circuit board (503) and mounted under the first main unit (See Fig 5), wherein: either a slit or a concave (Concave portion in the end of the heat shield) for inserting the chip is formed in the heat shield.

### ***Allowable Subject Matter***

2. Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See the Official Action dated 6/19/2008.

### ***Response to Arguments***

3. Applicant's arguments filed 9/19/2008 have been fully considered but they are not persuasive.

With respect to the Applicants' remarks to claim 1 that, "neither Masashi nor Kledzik teach the use of a resin-made and insulating heat shield inserted between the printed circuit board and the first main unit", the Examiner respectfully disagrees. Kledzik, at Col 4, Lines 52-55 teaches that the heat shield (101) is made of a resin ("fiberglass-reinforced plastic").

With respect to the Applicants' remarks regarding the term, "heat shield" (versus, "fixing spacer" (Masashi) and "dielectric body" (Kledzik)), the Examiner respectfully notes that both elements 141 and 101 of Masashi and Kledzik, respectfully, act as a "heat shield" since they provide some level of resistance to the heat by shielding the components from conduction, convection, radiation and/or any combination thereof.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZACHARY M. PAPE whose telephone number is (571)272-2201. The examiner can normally be reached on Mon.- Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary M Pape/  
Examiner, Art Unit 2835